

REMARKS/ARGUMENTS

The Applicant originally submitted Claims 1-28 in the application. The Examiner has rejected Claims 1-24. The Applicant believes that all of the pending Claims are allowable and has not amended, canceled or added any claims. Accordingly, Claims 1-28 are currently pending in the application.

I. Formal Matters and Objections

The Examiner has objected to the specification for containing an informality. In response, the Applicant has amended the specification by replacing “FIGURE 4A” with “FIGURE 6A.” Accordingly, the Applicant respectfully requests the Examiner to withdraw the objection.

II. Rejection of Claims 1-21 under 35 U.S.C. §102

The Examiner has rejected Claims 1-21 under 35 U.S.C. §102(e) as being anticipated by U.S. Patent No. 6,553,063 to Lin, *et al.* (Lin). The Applicants respectfully disagree.

Lin is directed to communicating information using fractional bits-per-symbol signaling rates responsive to communication channel conditions. (Column 1, lines 15-18). Lin discloses a constellation-multiplexed transmitter 40 that includes a bit parser 41, an encoder 45, a constellation mapper 47 and constellation tables 48. The bit parser 41 partitions a stream of incoming data bits into vectors for encoding by the encoder 45. Operation of the bit parser 41, the encoder 45 and the constellation mapper 47 are directed by a constellation selection controller 49. (Column 6, lines 13-25 and Figure 4).

The bit parser 41 can selectively and adaptively partition the incoming data bits into different sized vectors. (Column 5, lines 23-30). The Applicant does not find, however, where Lin teaches selecting one of first and second signals having disparate transmission characteristics as recited in independent Claims 1, 8 and 15. Instead, Lin simply teaches that the bit parser 41 continuously partitions the incoming data bits (Column 6, lines 16-17). Lin fails to teach any process where the first and second signals are actively selected. Continuously partitioning an incoming data stream into vectors is not the same as selecting one of a plurality of received signals. Additionally, even if Lin does teach selecting one of first and second signals, Lin does not teach selecting signals having disparate transmission characteristics.

Furthermore, Lin does not teach encoding the selected one of the first and second signals into a symbol representation as a function of the transmission characteristic associated therewith as recited in Claims 1, 8 and 15. Instead, the encoder 45 is under the direction of the constellation selection controller 49 which is responsive to sensed channel conditions. (Column 6, lines 63-67). The Applicant does not find where Lin teaches encoding is a function of a transmission characteristic associated with a selected first or second signal.

Therefore, for at least the reasons stated above, Lin does not disclose each and every element of the claimed invention and as such, is not an anticipating reference of independent Claims 1, 8 and 15 and Claims dependent thereon. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §102 rejection with respect to Claims 1-21 and allow issuance thereof.

III. Rejection of Claims 22-24 under 35 U.S.C. §103

The Examiner has rejected Claims 22-24 under 35 U.S.C. §103(a) as being unpatentable over Lin in view of U.S. Patent Application Publication No. 2002/0097791 for Hansen (Hansen). The Applicant respectfully disagrees.

Lin has been cited to teach an assorter that receives and selects first and second signals and a translator that encodes the selected first or second signal into a symbol representation as a function of a transmission characteristic associated therewith as recited in independent Claim 22. (Examiner's Action, page 7). As discussed above with respect to independent Claims 1, 8 and 15, Lin does not teach selecting first and second signals and Lin does not teach encoding the selected first or second signal into a symbol representation as a function of a transmission characteristic associated therewith. Instead, Lin teaches processing incoming data bits into different sized vectors. (Column 6, lines 16-17 and lines 63-65). Thus, Lin does not teach or suggest each and every element for which it has been cited.

Hansen is directed to constellation mapping and bit loading in multi-carrier transceivers. (Page 1, paragraph 2). Hansen has not been cited to cure the above deficiencies of Lin but to teach a bit merge and framer subsystem and a bit-to-symbol mapping subsystem coupled thereto. (Examiner's Action, page 7). Thus, the cited combination of Lin and Hansen does not teach or suggest each and every element of Claim 22 for which each reference has been cited.

Since the cited combination of Lin and Hansen does not teach or suggest each and every element of independent Claim 22, the cited combination fails to provide a *prima facie* case of obviousness of Claim 22 and Claims dependent thereon. Claims 22-24, therefore, are not

unpatentable in view of the cited combination and the Applicant respectfully requests the Examiner to withdraw the §103(a) of these Claims and allow issuance thereof.

IV. Comment on Cited Art

The Applicant reserves further review of references cited but not relied upon if relied upon in the future.

V. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a Notice of Allowance for Claims 1-28.

The Applicant requests the Examiner to telephone the undersigned attorney of record at (972) 480-8800 if such would further or expedite the prosecution of the present application.

Respectfully submitted,

HITT GAINES, P.C.



J. Joel Justiss
Registration No. 48,981

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P.O. Box 832570
Richardson, Texas 75083
(972) 480-8800